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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/846,841 | 04/30/2001 | Carl M. Panasik | TI-32958 | 4986 |

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| EXAMINER |
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LE, NHAN T

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| ART UNIT | PAPER NUMBER |
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2685

DATE MAILED: 06/17/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,841

Applicant(s)

PANASIK ET AL.

Examiner

Nhan T Le

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5, 6
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to because Comparator #16 in Fig 2 is mislabeled. Comparator #16 should be changed to #24 as disclosed in the specification. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 10 is objected to because of the following informalities: Claim 10 discloses the wireless user terminal of claim 10. Claim 10 should be changed to the wireless user terminal of claim 8 since it discloses that the RF section further comprises a synthesizer coupled to the modulator and to the receiver. Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6,424,280 in view of Evans et al (US 6,476,745).

As to claims 1, 20, Sadkowski teaches a signal clipping circuit for switched capacitor sigma delta analog to digital converters comprises a switch having a first lead coupled to an input and a second lead coupled to an analog-to-digital converter (ADC) (see col. 4, line 20), a second input coupled to receive a first reference voltage (Upper boundary, see col. 4, line 25), a third input coupled to receive a second reference voltage (Lower boundary, see col. 4, line 26) and a signal clipping circuit having a first input coupled to the first input of the switch an output coupled to the second lead of the switch (see col. 4, lines 21-23). However, Sadkowski fails to teach a wireless user terminal having radio frequency (RF) communication capability, comprising: a digital baseband; an RF section; an analog baseband coupling the digital baseband to the RF section. Evans teaches teach a wireless user terminal having radio frequency (RF) communication capability, comprising: a digital baseband (see fig. 7, number 110); an RF section (see fig. 7, number 104); an analog baseband coupling the digital baseband and to the RF section (see fig. 7, number 101). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Evans into the device of Sadkowski in order to modulate the voice signal in wireless telephone application.

As to claims 2, 21, the combination of Sadkowski and Evan discloses the wireless user terminal of claim 1 wherein the analog-to-digital converter is a sigma-delta analog-to-digital converter (see Sadkowski col. 4, lines 18-19).

As to claims 3, 22 the combination of Sadkowski and Evan discloses the wireless user terminal of claim 1 wherein the wireless user handset is a cellular handset (see Evans fig. 7, number 100).

As to claims 4, 23, the combination of Sadkowski and Evan discloses the wireless user terminal of claim 1 wherein the digital baseband further comprises: a digital signal processor (DSP) (see Evans fig. 7, number 110); a microcontroller unit (MCU) coupled to the DSP (see Evans fig. 7, number 112); and an ASIC backplane coupled to the DSP and the MCU (see Evans fig. 7, number 113).

As to claims 5, 24, the combination of Sadkowski and Evan discloses the wireless user terminal of claim 1 wherein analog baseband comprises an audio interface coupled to the DSP (see Evans fig. 7, number 102) and to a speaker and a microphone (see Evans col. 2, lines 38-40).

As to claims 6, 25, the combination of Sadkowski and Evan discloses the wireless user terminal of claim 1 wherein said analog baseband comprises an RF interface coupled to the DSP and to the RF section (see Evans fig. 7, number 103).

As to claims 7, 26, the claim is rejected as the rejected claims 5 and 6.

As to claims 8, 27, the combination of Sadkowski and Evan inherently teaches the wireless user terminal of claim 1 wherein the RF section comprises a duplexer coupling a receiver and power amplifier to an antenna.

As to claims 9, 28, the combination of Sadkowski and Evan teaches the wireless user terminal of claim 8 wherein the RF section further comprises a modulator coupling the RF interface to a power amplifier (see Evans fig. 7, number 107).

As to claims 10, 29, the combination of Sadkowski and Evan teaches the wireless user terminal of claim 8 wherein the RF section further comprises a synthesizer coupled to the modulator and to the receiver (see Evans fig. 7, number 106).

As to claims 11, 30, the combination of Sadkowski and Evan teaches the wireless user terminal of claim 1 further including a user display (see Evans fig. 7, number 114) and a keyboard (see Evans fig. 7, number 115) coupled to the digital baseband.

As to claims 12, 31, the combination of Sadkowski and Evan teaches the wireless user terminal of claim 4 further including a user display and a keyboard coupled to the MCU (see Evans fig. 7, numbers 114, 115, 112).

As to claims 13, 32 the combination of Sadkowski and Evan inherently teaches the wireless user terminal of claim 6 wherein the analog-to-digital converter is located within the RF interface.

As to claim 14, the combination of Sadkowski and Evan inherently teaches the wireless user terminal of claim 6 wherein the analog-to-digital converter is located within the Audio interface.

As to claim 15, the combination of Sadkowski and Evan teaches the wireless user terminal of claim 1 wherein the clipping circuit comprises a first branch for clipping

an output signal at an upper boundary (see Sadkowski col. 4, line 25), and a second branch for clipping the output signal at a lower boundary (see Sadkowski col. 4, line 26).

As to claim 16, the combination of Sadkowski and Evan teaches the wireless user terminal claim 15 wherein the first branch comprises: a comparator having an output, a first input coupled to receive a first threshold voltage and a second input coupled to receive the input signal (see Sadkowski col. 4, lines 28-30); and a switch coupled to the output of the comparator, the output voltage of the comparator couples to the switch to open and close the switch (see Sadkowski col. 4, lines 30-34).

As to claim 17, the combination of Sadkowski and Evan teaches the wireless user terminal of claim 16 wherein the first input of the comparator is a negative input and the second input of the comparator is a positive input (see Sadkowski col. 4, lines 37-39).

As to claim 18, the combination of Sadkowski and Evan teaches the wireless user terminal of claim 15 wherein the second branch comprises: a comparator having an output, a first input coupled to receive a first threshold voltage and a second input coupled to receive the input signal (see Sadkowski col. 4, lines 49-52); and a switch coupled to the output of the comparator, the output voltage of the comparator couples to the switch to open and close the switch (see Sadkowski col. 4, lines 53-55).

As to claim 19, the combination of Sadkowski and Evan teaches the wireless user terminal of claim 18 wherein the first input of the comparator is a negative input and the second input of the comparator is a positive input (see Sadkowski col. 4, lines 58-60).

2. Claims 33, 34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6,424,280 in view of Evans et al (US 6,476,745) and in further view of Sadkowski et al (US 6,229,470).

As to claims 33, 34, Sadkowski teaches a signal clipping circuit for switched capacitor sigma delta analog to digital converters comprises first input (see col. 4, line 20), a switch having a first lead coupled to an first input and a second lead coupled to an analog-to-digital converter (ADC) (see col. 4, line 20), a second input coupled to receive a first reference voltage (Upper boundary, see col. 4, line 25), a third input coupled to receive a second reference voltage (Lower boundary, see col. 4, line 26) and a signal clipping circuit having a first input coupled to the first input of the switch an output coupled to the second lead of the switch (see col. 4, lines 21-23). However, Sadkowski fails to teach a wireless user terminal having radio frequency (RF) communication capability, comprising: a digital baseband; an RF section; an analog baseband coupling the digital baseband to the RF section. Evans teaches teach a wireless user terminal having radio frequency (RF) communication capability, comprising: a digital baseband (see fig. 7, number 110); an RF section (see fig. 7, number 104); an analog baseband coupling the digital baseband and to the RF section (see fig. 7, number 101). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Evans into the device of Sadkowski in order to modulate the voice signal in wireless telephone application. The combination of Sadkowski and Evans fails to teach a second input

coupled to said analog-to-digital converter (ADC), the second input being further coupled to receive an input signal. Sadkowski teaches a second input coupled to said analog-to-digital converter (ADC), the second input being further coupled to receive an input signal (see fig. 2, number 24 inputs, col. 2, lines 42-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Sadkowski into the device of Sadkowski and Evans in order to provide additional input to analog-to-digital converter.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Muza (US 6,084,467) teaches analog amplifier clipping circuit.

Gomes (US 4,877,981) teaches precision device for soft clipping AC and DC signals.

Song (US 5,689,204) teaches clipper circuit for clipping an upper or lower portion of unidirectional sinusoidal voltage signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T Le whose telephone number is 703-305-4538. The examiner can normally be reached on 08:00-05:00 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nhan Le


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